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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)	
081004.199US3 (RSA-045)	

Application Number	Filed
09/815,560-Conf. #7481	March 23, 2001
First Named Inventor	
Ari JUELS et al.	
Art Unit	**Examiner**
2134	D. Y. Jung

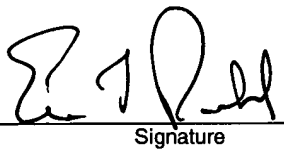
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant /inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☐ attorney or agent of record. Registration number _____
- ☒ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. 32,590



Signature

Eric L. Prahl
Typed or printed name

(617) 526-6000
Telephone number

November 21, 2005
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of 1 forms are submitted.

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail, in an envelope addressed to: MS AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: November 21, 2005 Signature: _____ (Maureen Divito)

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US1DOCS 5391466v1

Docket No.: 0081004.00199US3
(RSA-045)
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Ari JUELS et al.

Application No.: 09/815560 Confirmation No.: 7481

Filed: March 23, 2001 Art Unit: 2134

For: ROBUST VISUAL PASSWORDS Examiner: D. Y. Jung

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

PRE-APPEAL BRIEF

In our response to the final office action dated May 20, 2005, we canceled claims 1-8, 33-38, 60, 65, and 68. We also amended claim 59 to include the limitation of claim 60 relating to offsets. If those amendments had been entered, claims 9-32, 39-59, 61-64, 66, 67, and 69-71 would be pending in this application. However, the examiner refused to enter those amendments. Since the amendments only involved canceling claims in conformity with 37 C.F.R. §1.116(b)(1), we believe that refusal to enter the amendments was improper. We will therefore limit our arguments to independent claims 9, 20, 39, 48, and 59.

The examiner rejected claims 1-71 under 35 U.S.C. §103(a) as being unpatentable over U.S. 5,465,084 to Cottrell. The examiner admitted that Cottrell does not teach "error-correcting" in the sense of the claims. To solve this problem, he argued:

> Nevertheless, it is well known in the art to have a [sic] "error-correcting" situation in computer entry for the motivation of permitting ease of entry of data (by permitting a reasonable amount of error in entry)
>
> Hence, it would have been obvious to those of ordinary skill in the art at the time of the claim invention to modify Cottrell for the motivation noted in the previous paragraphs so as to teach the claimed invention.

Even if we assume that the use of error correcting codes in general was well known in the art at the time of this invention, that alone does not render obvious the particular way in which the error correcting codes are used in the present inventions. More specifically, that does not render obvious a claim 9, which recites the following:

> converting each discrete graphical choice in the sequence of discrete graphical choices into a value to produce a sequence of values, wherein the sequence of values corresponds to the sequence of discrete graphical choices;
>
> for the sequence of values selecting codewords from a plurality of codewords to generate a sequence of codewords, the plurality of codewords being associated with an error-correcting code

Stated differently, that does not render obvious converting graphical choices to a sequence of values and then mapping that sequence of values to a corresponding sequence of codewords that are associated with an error-correcting code. Moreover, the examiner has provided no support whatsoever for concluding that the particular way in which error codes are used in the present inventions were obvious or known. He has only rested his rejection on a general observation that "it is well known in the art to have a [sic] 'error-correcting' situation in computer entry for the motivation of permitting ease of entry of data."

The examiner has also not explained why an error correcting code of any type would be useful Cottrell's system or even how if error-correcting codes were used in Cottrell's system. What is the uncertainty in Cottrell's system that the error correcting code would be accommodating? There is no hint in Cottrell that uncertainty might be a problem or that it might be useful to modify the code to accommodate any uncertainty in the input patterns.

It is worth examining more closely how Cottrell's system operates. This is what Cottrell says:

> In order to understand the concept...the password is merely a pre-selected two or three dimensional pattern of elements represented by symbols and/or colors, each of which can be represented by a unique computer code. For instance, the standard ASCII code translates 256 European language alphanumerics and symbols into a one-byte computer code...A person wishing to obtain access to the protected device merely describes the pattern by some means available to that person and also recognizable by the security device so the security device can compare the pattern of symbols and/or colors (the "password") presented by the person seeking access and the permitted patterns on a position-and-symbol to position-and-symbol basis and without regard to the sequence in which the elements (e.g. symbols and/or colors) constituting the pattern are entered. The patterns are compared and if the pattern presented matches one of the authorized patterns, the device grants access to the requestor. A simple 10 x 10 grid in which a password pattern of any size is entered produces a device which has a chance of a

> random match of one in 6.6×10^{240} if only the standard 256 ASCII characters are used. It is virtually impossible to obtain a match to the pattern through a random guess, even with the fastest supercomputer. [emphasis added] (Col. 2,line 55 to col. 3, line 19).

It is noteworthy that Cottrell computes the probability of a random match occurring. His computed number implicitly assumes that no error correcting code is used; that is, it assumes that an exact match must occur, namely, the precise sequence of ASCII characters placed into the correctly arranged 2-dimensional pattern within a 10 x 10 grid. Indeed, using an error correcting code would undoubtedly increase the probability of a random match occurring, which would be counter to what Cottrell had achieved and yet would bring no advantage that has been recognized in the prior art upon which the Examiner has relied.

In view of how Cottrell's system operates, how might an error correcting code be used? One can imagine that it might be used to permit some leeway in either the character that is placed into the required grid position or in the grid position that is assigned to that character. But using an error correcting code to achieve either objective would not produce what is claimed.

We note that the claims recite a specific way in which an input pattern is processed. For example, according to claim 9 each discrete graphical choice of a sequence of discrete graphical choices that is entered by the user is first converted into a corresponding value to produce a sequence of values. At least one example of how this is done is described in paragraph [0065] of the present specification. Cottrell does not even suggest such a conversion. That is, contrary to what the examiner appears to believe, Cottrell does not suggest that his input pattern is converted to a sequence of values. The examiner pointed to col. 2, lines 10-45 as teaching this concept; but we could find nothing in that part of Cottrell's disclosure, or any other part of Cottrell's disclosure for that matter, which taught this concept.

Claim 9 also recites the following two additional steps:

> for the sequence of values selecting codewords from a plurality of codewords to generate a sequence of codewords, the plurality of codewords being associated with an error-correcting code;
>
> calculating an offset between each value in the sequence of values and the corresponding codeword in the sequence of codewords to generate a sequence of offsets

The examiner has not explained how such a mapping of the elements of Cottrell's input pattern to a corresponding sequence of codewords selected from an error correcting code might be performed in Cottrell's system. He has pointed to no prior art that suggests how it might be performed. And in the case of the offset, the examiner appears to simply have ignored (or at least misunderstood) this aspect of the invention. He has not identified where Cottrell or anybody else for that matter teaches computing offsets of any kind. Moreover, we could find no teaching by Cottrell of the use of offsets. Indeed, we could not even find mention of the word "offset" anywhere in Cottrell.

In his Advisory Action, the examiner did finally comment about the offsets but in so doing he revealed a basic misunderstanding about what the offsets represent in the claims. He stated: "On offsets, one must note that offsets are difference between codewords. This is inherent in the art." We note, however, that claim 9 explicitly recites that an offset is calculated for each value in the sequence and its corresponding codeword. The specification in paragraph [0098], among other places, indicates that offsets are a measure of the difference between the value (in the sequence of values) and the codeword that is selected to represent that value. Nothing in the claim indicates that an offset is a difference between two codewords, as the examiner appears to believe.

For at least the reasons presented above, we submit that the examiner has failed to establish a prima facie case that claim 9 is obvious over the art of record.

With regard to the other pending independent claims, each one makes a reference to using codewords to represent a sequence of values, wherein the codewords are associated with an error correcting code, and each one also refers to either computing or using offsets. The relevant portions of the other independent claims are as follows:

Claim 20: plurality of codewords being associated with an error-correcting code

retrieving a sequence of offsets

Claim 39: a codeword generator in signal communication with the converter, the codeword generator producing a sequence of codewords by applying a decoding function of an error correcting code to the sequence of values

an offset calculator in signal communication with the codeword generator, the offset calculator calculating an offset between each value in the sequence of

values and the corresponding codeword in the sequence of codewords to generate a sequence of offsets

Claim 48: a codeword generator in signal communication with the summer, the codeword generator producing a sequence of codewords by applying a decoding function of an error correcting code to the sequence of intermediate values

a memory element in signal communication with a summer, the memory element containing a sequence of offsets; the summer in signal communication with the converter and the memory element, the summer summing each input value from the sequence of input values with the corresponding offset from the sequence of offsets to generate a sequence of intermediate values

Claim 59: the plurality of codewords being associated with an error-correcting code

calculating an offset between each value in the sequence of values and the corresponding codeword in the sequence of codewords to generate a sequence of offsets for use in re-generating the secret

For at least those reasons, we submit that the examiner has failed to establish a prima facie case of obviousness and thus the claims should be allowed over the art of record.

Dated: November 21, 2005

Respectfully submitted,

By _____

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